

Nanomaterials in tissue engineering : fabrication and applications / edited by A.K. Gaharwar ...[et al.]

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Abstrak

Nanomaterial technologies can be used to fabricate high-performance biomaterials with tailored physical, chemical, and biological properties. They are therefore an area of interest for emerging biomedical technologies such as scaffolding, tissue regeneration, and controlled drug delivery. Nanomaterials in tissue engineering explores the fabrication of a variety of nanomaterials and the use of these materials across a range of tissue engineering applications.

Part one focuses on the fabrication of nanomaterials for tissue engineering applications and includes chapters on engineering nanoporous biomaterials, layer-by-layer self-assembly techniques for nanostructured devices, and the synthesis of carbon based nanomaterials. Part two goes on to highlight the application of nanomaterials in soft tissue engineering and includes chapters on cardiac, neural, and cartilage tissue engineering. Finally, the use of nanomaterials in hard tissue engineering applications, including bone, dental and craniofacial tissue engineering is discussed in part three.